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Appl. No. 10/729,802
Amdt. dated November 20, 2006
Reply to Office Action of June 7, 2006,

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (*Currently amended*) An isolated recombinant polynucleotide that comprises a nucleotide sequence encoding at least one domain of a disorazole polyketide synthase (PKS) protein or a fragment comprising at least one domain of said PKS, wherein said polynucleotide encodes a PKS domain having at least 98% sequence identity to the amino acid sequence of a domain of the disorazole polyketide synthase encoded by SEQ ID NO:1.
2. (*Currently amended*) The polynucleotide of claim 1, wherein said polynucleotide encodes a domain having 100% sequence identity to the amino acid sequence of said domain of the disorazole polyketide synthase encoded by SEQ ID NO:1 hybridizes under stringent hybridization conditions to a polynucleotide having the sequence of the SEQ ID NO: 1 or its complement.
3. (*Currently amended*) The polynucleotide of claim 1 ~~that comprises a sequence encoding a disorazole polyketide synthase polypeptide selected from the group consisting of DszA, DszB, DszC, and DszD, wherein said polynucleotide encodes a polypeptide having at least 98% sequence identity to the amino acid sequence encoded in SEQ ID NO:1~~ bases 8157-26117 (DszA); 26209-44787(DszB); 44976-56431 (DszC); and or 57756-60278(DszD).
4. (*Currently amended*) The polynucleotide of claim 1, ~~3, wherein said polypeptide has 100% sequence identity to said amino acid sequence encoded in SEQ ID NO:1~~ domain is selected from the group consisting of an AT domain, a KS domain, an ACP domain, a KR domain, a DH domain, and an ER domain.
5. (*Currently amended*) The polynucleotide of claim 1, ~~that comprises a sequence encoding a disorazole polyketide synthase module selected from the group consisting~~

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of wherein said polynucleotide encodes a polyketide synthase module having at least 98% sequence identity to a module of the disorazole polyketide synthase encoded by SEQ ID NO:1 bases 8166-13823 (module 1), 14067-19376 (module 2), 19491-23120 (module 3), 23331-26117 (module 4a), 26209-28056 (module 4b), 28234-29565 (module 5), 32971-37683 (module 6), 37834-42405 (module 7), or 42706-44787(module 8).

6. (original) A vector that comprises a polynucleotide of claim 1.
7. (original) The vector of claim 6 that is an expression vector.
8. (original) A recombinant host cell comprising the vector of claim 7.
9. (original) A recombinant host cell comprising a polynucleotide of claim 1 integrated into the cell chromosomal DNA.
10. (original) A method of producing a polyketide, which method comprises growing the recombinant host cell of claim 8 under conditions whereby a polyketide synthesized by a PKS comprising a protein encoded by said polynucleotide molecule is produced in the cell.
11. (previously presented) The polynucleotide of claim 1 that encodes a chimeric PKS polypeptide that comprises at least one domain of a disorazole PKS.
12. (*Currently amended*) A recombinant host cell comprising the chimeric PKS polynucleotide of claim 11.
- 13 - 20, (cancelled)
21. (*New*) The polynucleotide of claim 5, wherein said polypeptide has 100% sequence identity to said module of the disorazole polyketide synthase encoded by SEQ ID NO:1.